

REMARKS

Please reconsider the application in view of the following remarks. Applicant thanks the Examiner for carefully considering this application.

Disposition of the Claims

In the Final Office Action, the Examiner rejected claims 1-4 and 6-10 under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 6,151,890 to Hoshi ("Hoshi II"). Specifically, the Examiner asserts that Embodiment 9, columns 31-34, lines 1-67 disclose a second emission reduction element having a lower operative temperature formulation than the first emission reduction element. Applicant notes that Hoshi II, relied on by the Examiner in the Final Office Action, is not the same as the initial Hoshi reference (*i.e.*, U.S. Patent No. 6,122,910) relied on by the Examiner in the First Office Action. As such, the following remarks are specifically directed to the Examiner's comments in view of Hoshi II. In response to the Final Office Action, Applicant respectfully requests the Examiner reconsider the application in view of the following remarks.

Rejections under 35 U.S.C. § 102(b)

Claims 1-4 and 6-10 stand rejected under 35 U.S.C. § 102(b) as anticipated by Hoshi II. Applicant respectfully traverses the Examiner's assertion on the basis that Hoshi II does not disclose a second emission reduction element having *a lower operative temperature formulation* than the first emission reduction element. As described by the Examiner, Hoshi II discloses an internal combustion engine 1 with first and second three-way catalysts 7 and 8 that receive heat from exhaust gas discharged from the internal combustion engine 1 with the temperature of the three-way catalysts 7 and 8 being elevated. Because the heat capacity of the

second three-way catalyst 8 is smaller than the heat capacity of the first three-way catalyst 7, the temperature elevation rate of the second three-way catalyst 8 is higher than the temperature elevation rate of the first three-way catalyst 7, and the temperature of the first three-way catalyst 7 is elevated to a predetermined temperature earlier than that of the first three-way catalyst 8 to release the adsorbed unburnt hydrocarbon.

The Federal Circuit has held that “anticipation under 35 U.S.C. § 102 means lack of novelty, and is a question of fact. To anticipate, *every element and limitation* of the claimed invention must be found in a single prior art reference, *arranged as in the claim*.” *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001) (emphasis added). Thus, to form a proper rejection under 35 U.S.C. § 102(b), the Hoshi II reference must include each and every element and limitation of the claim as arranged.

The Examiner apparently believes that because the temperature of the first three-way catalyst 7 elevates to a predetermined temperature earlier than the catalyst of the second three-way catalyst 8, that the three-way catalysts 7 and 8 *operate* at different temperatures. However, a closer reading of Hoshi II reveals that both first and second three-way catalysts 7 and 8 *operate* at a “predetermined” temperature, not at different temperatures. (Hoshi II, column 31, line 23). In fact, the passages relied upon by the Examiner simply confirm that if first three-way catalyst 7 has a lower heat capacity than second three-way catalyst 8, it will take less heat and therefore less time for first three-way catalyst 7 to heat up to the predetermined *operative* temperature. Thus, Hoshi II discloses three-way catalysts 7 and 8 that have different heat capacities and different temperature elevation rates, yet both *operate* at a common predetermined temperature.

Moreover, Hoshi II does not refer to regenerable emission reduction elements, but refers to first, second, and third three-way catalysts 7, 8, and 9. Three-way catalysts are not regenerable emission reduction elements because three-way catalysts operate continuously without the need for regeneration. In use, three-way catalysts heat up to a predetermined temperature, roughly 300°C, prior to operability. Following Hoshi II, if a three-way catalyst has a small heat capacity it will require less heat and thus take less time during engine operation to warm up the three-way catalyst to the predetermined temperature and begin to operate, than it would for a three-way catalyst having a larger heat capacity. However, while the heat capacities of the three-way catalysts are different, the temperature at which they begin to operate is the same. It follows that two different three-way catalysts having different respective heat capacities do not *operate* at different temperatures. Rather, it simply means that one of the three-way catalysts will reach the operative temperature before the other, so that the three-way catalysts are operable at different times.

Furthermore, in characterizing Hoshi II, the Examiner refers to forming first three-way catalyst 7 from a different material than second three way catalyst 8. Relying on this feature, the Examiner asserts that first three-way catalyst 7 and second three-way catalyst 8 have different operative temperatures. However, Hoshi II merely refers to forming three-way catalysts of different material as a way of varying the *heat capacities* of the respective three-way catalysts, not as a way of varying the *operative* temperatures. (Hoshi II, column 32, lines 27-35). This distinction is clarified when Hoshi II recites that "it is possible to exemplify a method for differentiating heat transfer properties of both the first three-way catalyst 7 and the second three-way catalyst 8 as a method for differentiating the desorption *timings* of the first three-way catalyst 7 and the second three-way catalyst 8." (Hoshi II, column 32, lines 46-50). Thus, Hoshi

II discloses a method of varying desorption timing, but is completely silent regarding regenerable emission reduction elements with different *operative* temperature formulations.

In view of the above, Applicant respectfully asserts that Hoshi II does not disclose, suggest or teach, regenerable emission reduction elements wherein the second emission reduction element has a lower operative temperature formulation than the first emission reduction element. As such, the emission reduction elements of Hoshi II cannot be said to include *each and every element and limitation* of the claims of the present application, *as arranged*. Therefore, Applicant respectfully requests that the rejection under 35 U.S.C. § 102(b) be withdrawn, and claims 1-4 and 6-10 be placed in condition for allowance.

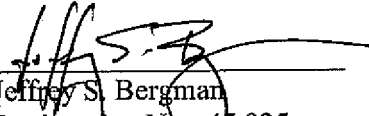
Conclusion

Applicant believes this reply is fully responsive to all outstanding issues and places this application in condition for allowance. If this belief is incorrect, or other issues arise, the Examiner is encouraged to contact the undersigned or his associates at the telephone number listed below. Please apply any charges not covered, or any credits, to Deposit Account 50-0591 (Reference Number 04630/032001).

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Respectfully submitted,

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